

REMARKS

Support for the amendment of claim 1 may be found in original claim 4 of the specification.

The materials in the current invention are organic thiocyanato compounds, PUG-SCN, wherein the sulfur of the thiocyanato moiety is covalently bound to the PUG moiety. Upon chemical processing, PUG-SCN releases, in a non-image-wise fashion, a photographically useful mercaptan, PUG-S. It is preferred that the PUG group be a heteroaromatic group, that is, an aromatic molecule containing a ring heteroatom, and the claims have been amended to reflect this.

Claims 1-2, 4-5, 11-12 with respect to the applied species were rejected under 35 U.S.C. 102(b) as being anticipated by Pollet et al. (US 4,727,017). In an alternative to the anticipation, claims 1-2, 4-5, 11-12, 15-16 and 20 with respect to the applied species were rejected under 35 U.S.C. 103(a) as being obvious by Pollet. Applicants respectfully traverse these rejections.

Pollett et al. report on column 8, line 3-15, that:

“The light-sensitive silver halide emulsions can be sensitized chemically by effecting the ripening in the presence of small amounts of compounds containing sulphur e.g. allyl thiocyanate, allyl thiourea, sodium thiosulphate, etc.”

The present amendment serves to distinguish the compound of the claim from Pollet et al. The compound, allyl thiocyanate, cited in the reference, is not a heteroaromatic compound. Thus there is no anticipation. Therefore, it is respectfully requested that the rejection be reconsidered and withdrawn.

As described by Pollet, allyl thiocyanate is directed toward the chemical sensitization of silver halide emulsions during their preparation. The resulting chemically sensitized emulsion can be used to prepare a silver halide element. To effect chemical sensitization, the allyl thiocyanate must act before the emulsion is exposed to light. By contrast, the heteroaromatic thiocyanato compounds of the current invention function during chemical processing wherein they release a photographically useful group. Therefore the current invention is new and is not obvious over Pollett and it is respectfully requested that the rejection be reconsidered and withdrawn.

Claims 1-2, 4-5, 11-12, and 15-20 with respect to the applied species were rejected under 35 U.S.C. 103(a) as being anticipated by Pollet considered in view of Lok (5,914,226). Applicants respectfully traverse this rejection.

Neither Pollet (as discussed above) nor Lok suggest or disclose heteroaromatic thiocyanato compounds that release a mercaptan in a non-imagewise manner during chemical processing. Therefore the current invention cannot be obvious over Pollett in view of Lok. Therefore, it is respectfully requested that the rejection be reconsidered and withdrawn.

Claims 1-2, 4-6, 11-12, and 15-16 with respect to the applied species were rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al. (US 4,468,454). In an alternative to the anticipation, claims 1-2, 4-6, 11-12, 15-16 and 20 with respect to the applied species were rejected under 35 U.S.C. 103(a) as being obvious by Brown. Applicants respectfully traverse these rejections.

On column 2 line 28-50, Brown et al. report that :

“A more complete list of the organic oxidants, i.e., bromine- or chlorine-substituted organic compounds which may be added to a negative-working silver halide emulsion to lower fog and increase aging stability in accordance with the present invention, would include the following:
2,2,2-trichloroethanol, m-nitrobenzyl chloride,
p-nitrobenzyl chloride, o-nitrobenzyl chloride,
3-chloroaniline, 2-chloro-4-nitrobenzyl chloride,
2-chloro-5-nitrobenzyl chloride,
4-chloro-2-nitrobenzyl chloride,
4-chloro-3-nitrobenzyl chloride,
.alpha.,.alpha.,.alpha.-trichlorotoluene, o-chloranil,
4,6-dichloro-5-nitropyrimidine,
5-chloro-2-(trichloromethyl) benzimidazole,
2-chloro-3-nitropyridine,
2-amino-3,5-dichloropyridine, p-nitrobenzyl
thiocyanate, chloro-(4-nitrophenyl)methane,
2-(p-nitrobenzyl) thiopyridinium bromide,
4'-chloro-4'-(4-nitrophenyl) butyric acid ethyl
ester, 3-bromo-3-(4-nitrophenyl)-propionic acid, and
4-chloro-4-(p-nitrophenyl)-butyric acid.”

The present amendment serves to distinguish the compound of the claim from Brown. The compound, *p*-nitrobenzylthiocyanate, cited in the reference, is not a heteroaromatic compound. Thus there is no

anticipation. Therefore, it is respectfully requested that the rejection be reconsidered and withdrawn.

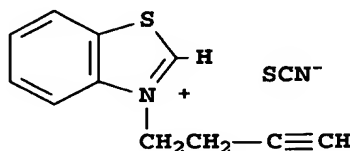
As described by Brown, *p*-nitrobenzylthiocyanate is an organic oxidant used during the preparation of silver halide emulsions. Brown does not suggest nor discuss heteroaromatic thiocyanato compounds that release a mercaptan in a non-imagewise manner during chemical processing. Therefore the current invention is new and cannot be obvious over Brown.

Claims 1-2, 4-6, 11-12, and 15-20 with respect to the applied species were rejected under 35 U.S.C. 103(a) as being obvious over Brown considered in view of Lok (5,914,226). Applicants respectfully traverse these rejections.

Neither Brown (as discussed above) nor Lok suggest or disclose thiocyanato compounds that release a mercaptan in a non-imagewise manner during chemical processing. Therefore the current invention cannot be obvious over Brown in view of Lok. Therefore, it is respectfully requested that the rejection be reconsidered and withdrawn.

Claims 1, 4-9, and 13-16 with respect to the applied species were rejected under 35 U.S.C. 102(b) as being anticipated by Adachi et al. (US 4,115,122). In an alternative to the anticipation, claims 1, 4-9, 13-16, and 20 with respect to the applied species were rejected under 35 U.S.C. 103(a) as being obvious over Adachi et al. Applicants respectfully traverse these rejections.

The compound, 3-(3-butynyl)benzothiazolim thiocyanate (structure drawn below), is cited in Adachi. In this compound, the anionic thiocyanate anion is a counterion to the cationic heterocycle. Thus the thiocyanate is not covalently bonded to a photographically useful group, as required by formula I of the current invention, and there is no anticipation.



3-(3-butynyl)benzothiazolim thiocyanate

The addition of 3-(3-butynyl)benzothiazolim thiocyanate to a silver halide emulsion is the equivalent of adding inorganic thiocyanate, since the compound would rapidly undergo counterion exchange with the many inorganic ions, such as Na^+ and Ca^{+2} , that are typically present in a photographic emulsion. As discussed in the Declaration by Paul Zielinski, submitted in response to the first office action, thiocyanate anion (SCN^-) forms a strong complex with silver and does not undergo cleavage to release a mercaptan.

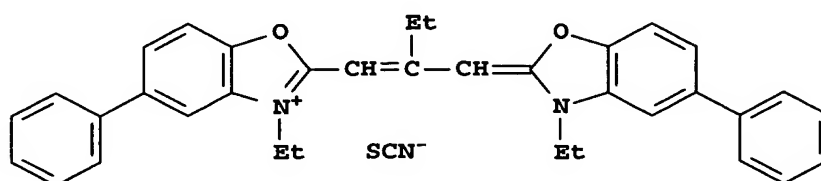
Adachi does not suggest or disclose heteroaromatic thiocyanate compounds of formula (I), that release a mercaptan in a non-imagewise manner during chemical processing therefore the current invention cannot be obvious in view of Adachi. Therefore, it is respectfully requested that the rejection be reconsidered and withdrawn.

Claims 1, 4-9, 13-20 with respect to the applied species were rejected under 35 U.S.C. 103(a) as being obvious over Adachi et al. considered in view of Lok (5,914,226) and Renner et al. (DE 37 30 557). Applicants respectfully traverse this rejection.

Neither Adachi (as discussed above), Lok, nor Renner suggest or discuss heteroaromatic thiocyanate compounds, that are not coupler compounds, and that release a mercaptan in a non-imagewise manner during chemical processing. Therefore the current claimed invention cannot be obvious over Adachi in view of Lok and Renner. Reconsideration and withdrawal is respectfully requested of the rejection.

Claims 1-2 and 11-12 with respect to the applied species were rejected under 35 U.S.C. 102(b) as being anticipated by Iwano et al. (JP 45-2871).

The compound 3,3',9-triethyl-5,5'-diphenyloxacarbocyanine thiocyanate (structure drawn below) is cited in Iwano. In this compound, the anionic thiocyanate anion is a counterion to the cationic dye molecule. Thus the thiocyanate is not covalently bonded to a photographically useful group, as required by formula I of the current invention, and there is no anticipation. Reconsideration and withdrawal is respectfully requested of the rejection.



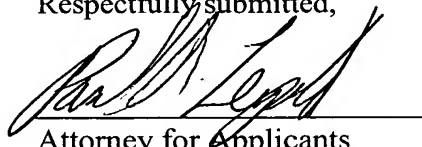
3,3',9-triethyl-5,5'-diphenyloxacarbocyanine thiocyanate

Claims 15-20 with respect to the applied species were rejected under 35 U.S.C. 103(a) as being obvious over Iwano et al. considered in view of Lok (5,914,226) and the English translation of Renner et al. (DE 37 30 557). Applicants respectfully traverse this rejection.

The addition of 3,3',9-triethyl-5,5'-diphenyloxacarbocyanine thiocyanate, as cited in Iwano, to a silver halide emulsion is the equivalent of adding inorganic thiocyanate, since the compound would rapidly undergo counterion exchange with the many inorganic ions, such as Na^+ or Ca^{+2} , that are typically present in a photographic emulsion. As discussed in the Declaration by Paul Zielinski, submitted in response to the first office action, thiocyanate anion (SCN^-) forms a strong complex with silver and does not undergo cleavage to release a mercaptan. Thus neither Iwano, Lok, nor Renner suggest or disclose a heteroaromatic thiocyanate compound, that is not a coupler compound, and that releases a mercaptan in a non-imagewise manner during chemical processing. Therefore the current invention cannot be obvious when Iwano et al. is considered in view of Lok and Renner and withdrawal of the rejection is respectfully requested.

In light of the above amendments and remarks it is respectfully requested that the rejection under 35 U.S.C. 103 and 35 U.S.C. 102 be reconsidered and withdrawn and that an early Notice of Allowance be issued in this application.

Respectfully submitted,


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